

WHAT IS CLAIMED IS:

1. A combination electronic communication and medical diagnostic apparatus, comprising:
  - a) a first component for transmitting or receiving a remote electronic communication signal; and
  - b) a second component for generating vibration to be used in a medical diagnosis.
2. The apparatus of Claim 1, wherein:
  - a) the electronic communication signal comprises a wireless signal.
3. The apparatus of Claim 2, wherein:
  - a) the apparatus functions as a pager, beeper, or cellular phone.
4. The apparatus of Claim 3, wherein:
  - a) the apparatus functions as a probe for detecting neuropathy in a subject.

5. The apparatus of Claim 1, wherein:
  - a) said second component generates vibration of a fixed magnitude.
6. The apparatus of Claim 1, wherein:
  - a) said second component generates a plurality of sets of vibration each of a fixed magnitude.
7. The apparatus of Claim 1, wherein:
  - a) said second component generates vibration of a variable magnitude.
8. The apparatus of Claim 7, wherein:
  - a) the magnitude is variable in a linear, curvilinear, or step-like manner.
9. The apparatus of Claim 1, wherein:
  - a) said second component generates vibration at a fixed frequency.

10. The apparatus of Claim 1, wherein:
  - a) said second component generates a plurality of sets of vibration each at a fixed frequency.
11. The apparatus of Claim 1, wherein:
  - a) said second component generates vibration at a variable frequency.
12. The apparatus of Claim 4, wherein:
  - a) the probe can be used to determine a vibration perception threshold, a vibration disappearance threshold, or a vibration threshold, in a subject to detect neuropathy.
13. The apparatus of Claim 12, further comprising:
  - a) audio or visual display to indicate one or more of vibration perception threshold, vibration disappearance threshold, and vibration threshold.
14. A combination electronic communication and medical diagnostic apparatus, comprising:
  - a) a device for generating vibration in first and second modes;

- b) one of said first and second modes for utilizing in an electronic communication and the other of said first and second modes for utilizing in a medical diagnosis.

15. The apparatus of Claim 14, wherein:
  - a) the apparatus in said one of said first and second modes operates as a pager, beeper, or cellular phone.
16. The apparatus of Claim 14, wherein:
  - a) the apparatus in said other of said first and second modes operates as a probe for detecting neuropathy in a subject.
17. The apparatus of Claim 16, wherein:
  - a) said device in said other of said first and second modes generates vibration of a fixed magnitude.
18. The apparatus of Claim 17, wherein:
  - a) said device in said other of said first and second modes generates a plurality of sets of vibrations each of a fixed magnitude.

19. The apparatus of Claim 16, wherein:
  - a) said device in said other of said first and second modes generates vibration of a variable magnitude.
20. The apparatus of Claim 19, wherein:
  - a) the magnitude varies in a linear, curvilinear, or step-like manner.
21. The apparatus of Claim 16, wherein:
  - a) said device in said other of said first and second modes generates vibration at a fixed frequency.
22. The apparatus of Claim 16, wherein:
  - a) said device in said other of said first and second modes generates a plurality of sets of vibration each at a fixed frequency.
23. The apparatus of Claim 16, wherein:
  - a) said device in said other of said first and second modes generates vibration at a variable frequency.

24. The apparatus of Claim 16, wherein:
  - a) the probe can be used to determine a vibration perception threshold, a vibration disappearance threshold, or a vibration threshold, in a subject to detect neuropathy.
25. The apparatus of Claim 16, further comprising:
  - a) audio or visual display to indicate one or more of vibration perception threshold, vibration disappearance threshold, and vibration threshold.
26. An electronic communication apparatus for detecting neuropathy in a subject, comprising:
  - a) a component for generating vibration of a fixed or variable magnitude; and
  - b) wherein when the apparatus is applied to a subject, threshold for the perception or disappearance of vibration can be determined as a measure of nerve function to detect neuropathy.
27. The apparatus of Claim 26, wherein:
  - a) the apparatus also functions as a pager, beeper, or cellular phone.

28. A medical diagnosis method, comprising the steps of:
  - a) providing a combination electronic communication and medical diagnostic apparatus, the apparatus comprising:
    - i) a first component for transmitting or receiving a remote electronic communication signal; and
    - ii) a second component for generating vibration to be used in a medical diagnosis;
  - b) generating vibration and applying the apparatus to a subject;
  - c) diagnosing a medical condition based on detection or non-detection of vibration by the subject.
29. The method of Claim 28, wherein:  
the apparatus functions as a wireless communication device.
30. The method of Claim 28, further comprising:  
determining a threshold for the subject's ability to detect vibration by generating vibration of a predetermined magnitude or frequency.

31. The method of Claim 30, wherein:
  - the threshold is graded low if the subject detects vibration, and high if the subject cannot detect vibration.
32. The method of Claim 28, further comprising:
  - determining a vibration perception threshold for the subject's ability to detect vibration by increasing the magnitude or frequency of vibration.
33. The method of Claim 32, wherein:
  - the vibration perception threshold is graded low, medium, or high when compared to a preset standard thereby indicating the severity of the medical condition.
34. The method of Claim 28, further comprising:
  - determining a vibration disappearance threshold for the subject's ability to no longer detect vibration by decreasing the magnitude or frequency of vibration.

35. The method of Claim 34, wherein:

the vibration disappearance threshold is graded low, medium, or high when compared to a preset standard thereby indicating the severity of the medical condition.

36. The method of Claim 28, wherein:

the medical condition comprises neuropathy.

37. The method of Claim 36, wherein:

the step b) comprises generating vibration of a predetermined magnitude or frequency equal to about 95<sup>th</sup>-97<sup>th</sup> percentiles in a normal population.

38. The method of Claim 37, wherein:

detection of vibration by the subject indicates an absence of neuropathy, and non-detection indicates a presence of neuropathy.

39. The method of Claim 30, wherein:

the magnitude or frequency is fixed.

40. The method of Claim 30, wherein:

the magnitude or frequency is variable in a linear, curvilinear, or step-like manner.

41. The method of Claim 36, wherein:

the apparatus is applied to an extremity of the subject.

42. A method of detecting neuropathy in a subject, comprising the steps of:

- a) providing a combination electronic communication and medical diagnostic apparatus, the apparatus comprising:
  - i) a first component for transmitting or receiving a remote electronic communication signal; and
  - ii) a second component for generating vibration to be used in detecting neuropathy;
- b) generating vibration of a predetermined magnitude or frequency as a threshold stimulus and applying the apparatus to a subject; and
- c) allowing the subject to indicate whether or not vibration can be detected;

d) wherein the absence or presence of neuropathy is indicated by the subject's ability to detect or not detect the vibration.

43. The method of Claim 42, wherein:

the apparatus functions as a wireless communication device.

44. The method of Claim 42, wherein:

the threshold stimulus is equal to about 95<sup>th</sup>-97<sup>th</sup> percentiles in a normal population.

45. The method of Claim 42, wherein:

the step b) comprises generating vibration of a fixed magnitude or frequency.

46. The method of Claim 42, wherein:

the step b) comprises generating vibration of a variable magnitude or frequency.

47. The method of Claim 46, further comprising:

determining a vibration perception threshold for the subject's ability to detect vibration by increasing the magnitude or frequency of vibration.

48. The method of Claim 47, wherein:

the vibration perception threshold is graded low, medium, or high when compared to a preset standard thereby indicating the severity of neuropathy.

49. The method of Claim 46, further comprising:

determining a vibration disappearance threshold for the subject's ability to no longer detect vibration by decreasing the magnitude or frequency of vibration.

50. The method of Claim 49, wherein:

the vibration disappearance threshold is graded low, medium, or high when compared to a preset standard thereby indicating the severity of neuropathy.

51. A medical diagnosis method, comprising the steps of:
- a) providing a combination electronic communication and medical diagnostic apparatus, the apparatus comprising:
    - i) a first component for transmitting or receiving a remote electronic communication signal; and
    - ii) a second component for generating vibration to be used in a medical diagnosis;
  - b) applying the apparatus to a subject and generating vibration;
  - c) diagnosing a medical condition based on detection or non-detection of vibration by the subject.

52. The method of Claim 51, wherein:  
the apparatus functions as a wireless communication device.

53. A method of detecting neuropathy in a subject, comprising the steps of:
- a) providing a combination electronic communication and medical diagnostic apparatus, the apparatus comprising:
    - i) a first component for transmitting or receiving a remote electronic communication signal; and

- ii) a second component for generating vibration to be used in detecting neuropathy;
- b) applying the apparatus to a subject and generating vibration of a predetermined magnitude or frequency as a threshold stimulus; and
- c) allowing the subject to indicate whether or not vibration can be detected;
- d) wherein the absence or presence of neuropathy is indicated by the subject's ability to detect or not detect the vibration.

54. The method of Claim 53, wherein:

the apparatus functions as a wireless communication device.